

REMARKS

The Examiner's action dated February 5, 2008, has been received, and its contents carefully noted.

Claims 1-5 remain in the application for consideration.

In response to the Examiner's objection to the claims, applicant has amended claims 2 and 5 substantially as suggested by the Examiner to eliminate each of the problems identified in his objection. Applicant respectfully submits that the Examiner's objection has now been overcome.

The Examiner has further rejected claims 1 and 4 under 35 USC 102(b) as being anticipated by Mays '479 and claims 2-3 and 5 under 36 USC 103(a) as being unpatentable over Mays in view of Fuchigami '848. Applicant respectfully traverse those rejections as applied to the claims as amended.

As the Examiner will note, claim 1 as amended is now directed to a sample holder for measuring both draw and humidity of a cigarette comprising a tobacco rod and a filter wrapped in a cigarette paper. This sample holder comprises in a same structure a combination of:

- a draw measurement cell which comprises a tubular body provided with an access orifice for the cigarette, a

central cavity and an output orifice provided with a first sphincter adapted to encapsulate said filter end and to hold the cigarette in place in said tubular body with a hyperfrequency cavity surrounding the tobacco rod, means for generating an aspiration flow at the lower end of the filter and a pressure sensor for measuring the load loss generated by the cigarette on this aspiration flow (which is representative of the draw of the cigarette) and;

- a humidity detecting means using the central cavity as hyperfrequency cavity and comprising means for applying and analyzing hyperfrequency signals in said cavity so as to be able to effect humidity measurements on the cigarette before, during and/or after a draw measurement by said draw measurement cell.

As specified in the specification text this sample holder is intended to overcome the drawbacks of the known devices using several independent modules which are inserted between two other modules of the production station, and to solve the problem resulting from the fact that a draw measurement causes a modification in tobacco humidity on account of the aspiration of an air stream through the cigarette and that, consequently, the humidity of the tobacco sample in the weight measurement module and the humidity of

the tobacco of this same sample in the compactness measurement module are different. If a single humidity detecting means module is used, only one of the two humidity values can be measured since this characteristic is modified during measurement of draw.

Applicant respectfully submits that Mays is not directed to this problem and therefore does not suggest a solution to this problem.

In fact Mays is directed to an apparatus for measuring the density of a substance having free water compensation which does not comprise any means for measuring the draw of a cigarette. The Mays apparatus comprises a density sensor 12 having a cylindrical container surrounding a resonant cavity 18 into which is injected microwaves through an aperture 42 by an antenna 44. The portion of the radiation reflected from the sensor 12 is passed by a coupler by a first amplifier. The amplified signal is converted to DC voltage by a detector 54 and the converted signal is amplified by a second amplifier 56. The output of the amplifier 56 is digitized and passed to a microprocessor 60 which determines the density. Applicant respectfully submits that the density sensor 12 is not intended nor conceived to effect a draw measurement (which necessitates the use of means for causing an aspiration flow

at the lower end of the cigarette and a pressure sensor to measure the load loss generated by the cigarette).

Applicant Submits that, Mays does not constitute a pertinent citation against claim 1 as amended as its sole teaching is directed to the use of a microwave cavity for detecting a density.

Applicant further notes, that Mays uses a free water sensor 14 comprising a second cavity or chamber 74 of a waveguide 64 which is traveled by a microwave signal. The generated and reflected signals form a ratio which is used by a microprocessor 60 along with the measurement from an adjacent sensor (12) that provides a dielectric constant measurement corresponding to the density of the substance in order to determine a weight of the substance compensated for free water.

Accordingly, applicant submits that there is nothing in this document which raises or which solves a problem concerning the fact that a draw measurement causes a modification in tobacco humidity. More particularly it does not disclose any draw measurement (neither before nor after a measurement of humidity.)

For these reasons applicant submits that the rejection of the amended claims 1 and 4 under 35 USC 102(b) as being anticipated by Mays is unfounded.

Fuchigami is directed a ventilation-characteristic measuring apparatus which performs draw measurements on cigarettes. However this document does not concern a measurement of humidity of these cigarettes.

As such Fuchigami does not raise and solve the problem due to the modification in tobacco humidity by a draw measurement.

Accordingly, teaching of Fuchigami with that of Mays cannot be considered as obvious to a person of ordinary skill in the art for the following reasons:

- Mays uses two successive microwave cavities.
- Mays does not disclose any sphincter which could be used so as to effect a draw measurement. Such a use would be in contrast with the device proposed by Mays in which the rod of tobacco extends for continuous movement during the manufacturing process of the cigarettes.

In fact, the structure used by Mays is relatively complex and comprises in a cylindrical passage, a cylindrical duct (not referenced) provided with an inner tubular element of hexagonal section having a plurality of small bores (visible on figs 2, 3 and 4).

The rod of tobacco is guided by this hexagonal tubular element. Due to the presence of the cylindrical

duct and of this tubular element, the use of sphincter and iris as shown by the Examiner so as to encapsulate the end of the filter of a cigarette and for separating the tobacco rod from the filter and from the atmosphere cannot be envisaged.

In addition, the use of a second sphincter as indicated by the Examiner, between the resonant cavity 18 of the density sensor and the chamber 74 of the wave guide 64 is not supported by the cited prior art.

Generally speaking Mays teaches that for each measurement one separate sensor is used (two successive distinct radio or microwave sensors). This teaching is in contrast with the applicant's teaching which incorporates in a draw measurement cell a hyperfrequency cavity for humidity measurement so as to obtain the following plurality of measurements which would necessitate a plurality of sensors:

- a first humidity measurement (before draw measurement),
- a draw measurement (with possible filter ventilation measurement, paper ventilation measurement, measurement of draw with the filter ventilation closed), and
- a second humidity measurement (after draw measurement).

These features are not taught by Mays or Fuchigami, do not consist only of the sum of the results obtained by


two separate sensors. The use of a single humidity sensor could not obtain a humidity measurement before and after a draw measurement. This result cannot be considered as previsible in regard of the Examiner's citations.

Applicant respectfully submits that the claimed inventions patentably defines over the cited prior art on the basis of the above identified structural differences between that claimed and the cited prior art.

Favorable reconsideration and allowance are earnestly solicited.

Respectfully submitted,

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